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PROCEEDINGS  
OF  
THE ROYAL GEOGRAPHICAL SOCIETY  
OF LONDON.

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SESSION 1858-9.

*Eighth Meeting, March 14th, 1859.*

SIR RODERICK I. MURCHISON, PRESIDENT, in the Chair.

PRESENTATIONS.—*Major A. C. Cooke, R.E.; Captain A. Clarke, R.E.; the Rev. F. W. Tremlett; A. L. Fisher, M.D.; J. W. Ogle, M.D.; and H. W. Willoughby, Esqrs., were presented upon their election.*

ELECTIONS.—*Captain Henry Harris; Robert Baikie, Esq., M.D.; H. Diedrich Jencken, Henry Loch, and Arthur B. Warre, Esqrs., were elected Fellows.*

EXHIBITIONS.—A large nugget of gold, and a model of the largest found in Australia, were exhibited by Professor Tennant, F.R.G.S.

ACCESSIONS.—Among the numerous accessions to the Library and Map Rooms since the last Meeting were:—Page's La Plata; Explorations and Surveys for a Railroad Route from the Mississippi to the Pacific (vols. 5, 6, and 7); Hitchcock's Ichnology of New England; Cave's Algeria; Emory's United States and Mexican Boundary Survey; Sir Macdonald Stephenson's Map of Turkey, showing the railways; Van de Velde's Map of the Holy Land, &c.

The Papers read were:—

1. *Explorations in South Australia.* By MESSRS. BABBAGE, WARBURTON, STUART, and others.

Communicated by the Right Hon. Sir E. BULWER LYTTON, Bart., Her Majesty's Secretary for the Colonies.

THE papers submitted to the Society contain the results of numerous explorations made in Southern Australia during the season of 1858. In order to obtain a general idea of their extent, it will be sufficient to refer to a map inserted at page 194 in Vol. II. of the Proceedings, which contains all that had been discovered up to the close of the

preceding year. Not only has the large vacant space corresponding to the western and northern portions of that map been traversed in several directions, but the path of one explorer, Mr. Stuart, has attained even to about lat.  $30^{\circ} 30'$ , long.  $137^{\circ} 30'$ , according to his careful dead reckoning. The horse-shoe bed hitherto ascribed to Lake Torrens, has now given place to a representation of a chain of lakes, between two of which a well-grassed and well-watered country has been found to exist: a communication has been made across it by Major Warburton from the neighbourhood of Mount Serle to the district lying to the north-west of the lakes. But the most important discovery is that of Mr. Stuart, who traced a line of water parting from the division between the above-mentioned lakes, extending as far as he was able to follow it in a north-westerly direction, and having its slopes towards the *interior* of the continent, of a far more grassy and more promising character than those to the seaward.

A large expedition had been started under the charge of Mr. Babbage at a great expense to the colony, but it was hampered by its own weight, and did not attain any very considerable distance, although the country it passed over was thoroughly examined, both to the right and to the left of the line of route, and carefully mapped by its leader. The minor explorations of Mr. Parry to the N.N.W. of Mount Serle, of Corporal Burt to the W.N.W. of the same place, and of police-trooper Geharty to the N. and N.W. of Streaky Bay, have helped in a considerable degree to fill up the space within the curve of Lake Torrens, or rather of the chain of lakes by which its course is now represented.

The whole of the country that has been explored affords numerous districts capable of supporting sheep. Its character is thus described by Major Warburton at the close of his numerous journeys, during which he traversed the principal part:—

“Most of the country I have visited seems admirably adapted for pastoral occupation. It is one that would be greatly improved by being stocked, the surface would become firmer, and the thin coating of small stones would be just sufficient to prevent rapid evaporation, but not to interfere with the growth of grass, which would soon spring up under sheep. There is no scrub. I saw very few wild dogs, no kangaroos, and no natives. Sheep might be run in flocks of several thousands; and I believe that for every single sheep the country could carry the first year, three might be put upon it the third season. The ground is high, would be dry under foot when made firmer by the treading of sheep, and it is clean for the wool. A little rain would leave plenty of temporary surface water. The water-holes are generally good, and would last all the year if that

country were blessed with periodical rain ; but it is doubtful whether it is so or not. Then there is an abundant and sure supply of water from the springs. The country generally is very deficient in useful timber, but the reeds and mud would make good huts."

The following extract of a despatch from Governor Sir R. G. Macdonnell to Sir E. B. Lytton shows in a prominent manner the remarkable extent of the discoveries of Mr. Stuart :—

"Unfortunately for Mr. Babbage it became more than ever evident that exploration should precede the mapping of a country, when a private explorer, Mr. John Macdougall Stuart, returned only in September from a very extensive and successful exploring expedition, conducted entirely at the expense of private parties. Mr. Stuart, who had been with Captain Sturt as draughtsman in his second great expedition, and who was accompanied by only one white companion and a black—with five horses, and a scanty supply of provisions, but with a moral courage and hardihood of the highest description—managed literally to describe an immense circle round the contracted movements of Mr. Babbage and his party; having penetrated in a straight line nearly 240 miles to the north-west of Mr. Babbage's camp at the Elizabeth, and having traversed in various routes nearly four degrees of longitude west, and three of latitude north of that position.

"These points will be more evident to you on examining a map which I have caused to be compiled for your information, and which not merely gives Mr. Stuart's track as in the chart attached to the enclosed Council paper, but also shows the position of Mr. Babbage's camp, together with the general aspect of the country in the vicinity of Lake Gairdner, as laid down by Major Warburton, Mr. Babbage, and others. You will thus see at a glance the great extent of Mr. Stuart's discoveries, and the importance of their character, as it seems probable that at least from 12,000 to 18,000 square miles of country, available hereafter for pastoral purposes, have been opened by Mr. Stuart's exertions ; and I am glad to say the House of Assembly have presented an address to me, requesting me to take the necessary steps for giving Mr. Stuart a fourteen years' lease of 1500 square miles of the new country, to be rent free for the first seven years.

"I would suggest that the labours and discoveries of Mr. Stuart might with propriety be brought under notice of the Royal Geographical Society, on account of the extreme interest attaching to some of them. I allude more especially to his discovery of the range which I have called Stuart Range, and which appears to have been traced in a N.W. direction ; broken more or less here and there, but

still forming on the whole a continuous dividing water-parting from along the west shore of Lake Torrens (about lat.  $30^{\circ} 30'$ , long.  $137^{\circ} 30'$ ) to lat.  $28^{\circ}$  south and long.  $133^{\circ}$  east, being the farthest point on Mr. Stuart's map. The fact of the waters flowing from that range to the north-east and north, together with the apparently feasible tale of the natives of large bodies of water existing still farther to the north and north-west, as well as the improved country generally existing at the north side of that range, contrasted as it is with the extremely barren and desert country south of it towards Lake Gairdner and the sea—to which region the journeys of former explorers were principally confined—all form a strong body of evidence tending to invest the hitherto supposed interior desert of Australia with a character at once novel, important, and interesting.

“At the same time, whilst admitting the great results attained by Mr. Stuart with comparatively insignificant means, but by the exertion of a courage, energy, and judgment scarcely paralleled in the previous history of Australian explorations, it is necessary to bear in mind that the chart of his track has been constructed with the aid only of a compass, and the dead reckoning which he kept. Under such circumstances I shall not be surprised to learn hereafter that his distances are over-stated, as is so often the case when travellers rely entirely on dead reckoning. Nevertheless, although there may be considerable room for improvement of his chart in this respect, it will under all circumstances be a great monument of what can be achieved by the indomitable pluck of one man, imbued with a thorough spirit of self-reliance.”

The PRESIDENT.—We return our thanks to the Secretary of the Colonies for sending to us these voluminous and interesting communications, and also to the gallant explorers of these hitherto unknown tracts of South Australia. The gentleman who in the first instance most distinguished himself in these researches, and to whose merits I adverted last session, is Mr. Herschel Babbage, who had undertaken his journey with a fair prospect of success. He had zealously prepared all the requisites to enable him to get through the southern saline district from Port Augusta, and I give him credit for the enterprise, zeal, and talent he exhibited in getting out of a most difficult position. No sooner was he free of his heavy drays, than, taking to horses, he went forward to the north, and fixed with more accuracy than any other person the latitude and longitude of various places, giving us a clear account of the chief fresh springs, the nature of the rocks, and of the natural productions of the country, and delineating the form of the saline sheet of water named by him Lake Gregory as separated from Lake Torrens. It was when he reached his northernmost point on Lake Gregory that he was recalled, Major Warburton taking the command of the expedition. All that tract of country which extends 100 miles inland has now been determined, first by the discoveries of Mr. Babbage, and secondly by those of Major Warburton and others; and the results quite coincide with the original observations of that

most adventurous traveller Eyre, in proving that all this zone is more or less saline. This salt country has been crossed by that remarkable man, Macdougall Stuart, who beyond it explored a vast fertile and well-watered region, with a great many watercourses descending from a chain of hills, to which the Governor of the colony has very properly assigned the name of the "Stuart Range." This new geographical discovery is indeed one which we might have expected from the former observations of that most distinguished explorer of Australia who now sits on my left hand, Captain Sturt. This gentleman, let me remind you, was truly the discoverer of South Australia. It was he who, advancing from the north-east, discovered the course and embouchure of the Murray River, and who indicated what South Australia was likely to become. Revisiting that tract at a later period, and after a colony had been established there under the government of Sir George Grey, Captain Sturt went boldly northward into the interior—much farther than any traveller who preceded him or has followed him—his progress being arrested by that great saline desert. Now Mr. Macdougall Stuart was one of Sturt's men, and learned from him that, whilst all was saline to the north, yet that probably towards the north-west there would be found a fertile country—a conclusion partly based on the flight of birds from that quarter.

Captain Sturt has come this day from Cheltenham to attend our meeting, and I rejoice to welcome him; whilst I am peculiarly gratified to see amongst us the Bishop of Perth in Western Australia, who has just arrived from that colony, and who previously to his becoming a dignitary of the Church was for some years at the head of an educational establishment in Western Australia.

CAPTAIN STURT, F.R.G.S.—You may suppose that I have read with very great interest the different accounts which have been recently sent home with regard to the discoveries in South Australia, more particularly that which refers to my old follower Macdougall Stuart, of whose courage and perseverance I was well assured. He attended me on my second attempt to cross the stony desert; and it was on that occasion that he and his companion expressed their readiness to follow me wherever I should lead them, when (after having been two days and a half without water, our farther advance into the desert would almost inevitably have cost us our lives) I left it to them to decide whether to push on or not—"Sir," said Stuart to me, "we will do as you please; we will go on or turn back as you may direct us," thus showing their devotion to the service on which they were employed. I turned back, however, and in doing so gave up every hope of further success. I may state that in retreating we lost three horses, and that on arriving at the little water-hole we had last quitted (on which I had calculated for relief), we found it had dried up!

The effect of such a discovery may be imagined, where life or death hung on our procuring water. We had not at that time seen a living animal of any kind in those fearful solitudes for days, but suddenly a pigeon passed us, and pitched for a moment only on the stony plain beyond us. Knowing from his flight that he was going to water, we went to the spot, and there found a supply of it that lasted us for two days, and which we should never have discovered but for the timely appearance of this bird. This was one of the many instances we had on that journey of the goodness of Providence, which can only be appreciated by those who have been placed in similar circumstances. So unexpected a deliverance melted my companions into tears. The kind of country which Stuart has discovered in his recent journey, and which he describes, is similar to some portions of that which I passed over myself, particularly near Cooper Creek, where there are slightly elevated ironstone ranges, with a certain portion of good land on each side of the creek which

flows between the ranges, and which gives a value to this locality as to that which Stuart has discovered.

In reference to Mr. Babbage's journey, I have been much surprised at the altitude he gives to the lakes which he discovered, because I take the interior to be much lower. At my depôt, whence I started into the interior, and which was only 340 feet above the sea-level, I descended very considerably as I neared the great stony desert, which I consider to be the lowest part of Central Australia, since the rivers, so far as I could judge, fall into it both from the south and from the north, and appear to meet in it as a central channel, for the main channel of Cooper Creek on the one side, and Eyre Creek on the other, certainly do run into it; but Mr. Gregory having traced the western arm of Cooper Creek (which, after overflowing a large plain, reforms as my Strzelecki Creek) into Lake Torrens, I have now no doubt but that the other creeks which I crossed, equally owing their existence to that arm of Cooper Creek, water the country immediately to the north of the lately-discovered lakes, and ultimately flow into them.

I think the most important part of Stuart's discoveries, independently of the available country which he has opened out, is the key which his large creek opens to the farther penetration of Central Australia. If the ranges he mentions continue to the north-west, as we have every reason to hope, water may be found near them, so as to enable explorers to go farther into the interior with every prospect of success from so advanced a position. Stuart, at his farthest point, was 700 miles from the position which I occupied in the centre, in lat.  $24^{\circ}$  and long.  $138^{\circ}$ . Mr. Gregory, at his farthest distance south from the Victoria of Stokes, was  $4^{\circ}$  of latitude higher to the north and  $11^{\circ}$  of longitude farther to the west than I was, and, therefore, he was about 700 miles to the west-north-west of my central position. At that point the country was exactly the same as the country which I had traversed—the same kind of sand-ridges and the same kind of vegetation; but there was this remarkable difference in the two localities, that where Mr. Gregory was, the sand-ridges ran east and west; and where I was, they ran north and south. How far the same kind of country may continue to the westward of his point, which would be nearly due north of Stuart's farthest point, and about 700 miles distant (our positions thus forming an equilateral triangle), it is impossible to say. I still believe that there is a large basin of water in the interior, and that there may be a good country yet found round about it. A black, who came to our depôt, certainly described water and fish as being to the west of us in so energetic a manner that we were all convinced there must be a mass of water in the direction to which he pointed. The motions he made and the indications which he gave naturally led every one of us to believe and to hope that we were within 50 or 60 miles of an inland sea. I believe now, when the country is farther explored, that the central channel will be found to lead into or be connected with some large basin of water.

THE PRESIDENT (addressing Captain Sturt).—How far from west to east do you suppose the region containing fresh water may extend?

CAPTAIN STURT.—I should say it would run to the meridian of  $138^{\circ}$ .

THE PRESIDENT.—I apprehend that Captain Sturt does not wish you to infer that any part of the region between his farthest north and Gregory's farthest south when he proceeded from Tropical Australia can be occupied by fresh water lakes, rivers, or springs.

CAPTAIN STURT.—No, no.

THE PRESIDENT.—You see, gentlemen, that all that low region is considered by Captain Sturt to be sterile.

CAPTAIN STURT.—That must necessarily be a dry and barren country. It is to the westward altogether that my observations point—to the great western half

*of the unexplored portion of the country*; and my view is rendered still further probable by the flights of fowls which Stuart mentions as going to the westward over his head.

MR. TRELAWNY SAUNDERS.—The discovery of the interval between Lake Torrens and Lake Gregory should teach us to beware of assuming, from a similarity of country at distant points, that the intervening space presents a continuation of the same nature. But for a deduction of this kind, the discoveries of Babbage and Stuart on the west of Lake Torrens might have been forestalled by Eyre nearly 20 years ago. In penetrating at that time into the country at the head of Spencer Gulf, Mr. Eyre found his course stopped at four different points by the impenetrable basin of a salt lake; and having been thus repeatedly obstructed by identical features at no great distance apart, he concluded that these features were continuous. Consequently a long lake of horseshoe shape has ever since invariably appeared on maps under the name of Lake Torrens. Mr. Herschel Babbage has, however, now discovered a tract of practicable country extending nearly the whole distance between two of the points reached by Mr. Eyre; so that the length of Lake Torrens has to be curtailed, and a separate basin has to be recognised under the name of Lake Gregory. Into Lake Gregory falls a permanent stream containing fish, and some others which Mr. Macdougall Stuart discovered during the admirable exploration which he has just accomplished with such remarkable success. A well-watered country was therefore opened to Eyre's research, if he had steadily persisted in tracing the limits of the muddy barrier which had barred his progress three times in this direction, instead of trusting to a tempting generalization.

The mode of argument which led to the horseshoe extension so long attributed to Lake Torrens, on the basis of four distinct observations not very wide apart, is now proposed to be adopted in the following case—one of equal or greater importance. Captain Sturt was stopped by desert at the northernmost point of his famous expedition into the interior from the south. Augustus Gregory also found a similar desert at the southernmost point of his recent journey from the mouth of the Victoria. Therefore it is supposed that the interval of about 700 miles is also desert. It must be kept in mind, however, that a few ranges of no greater height than that discovered by Stuart, and named after him, would probably suffice to attract and retain the moisture which the arid air of a stony or sandy plain might absorb before it could descend to moisten the parched ground. Such ranges would render the connection between the north and south coasts practicable; and Stuart has indicated the extension northward and westward of those which he has lately made known, while it may be considered highly probable that similar features, like the Stanley and Grey ranges, exist between the waters terminating in Cooper Creek and the Gulf of Carpentaria.

MR. JOHN CRAWFURD, F.R.G.S.—I have been charged here more than once with being a kind of objector-general; to-night I have not a word to say in the shape of objection. I approve of the conduct of all the gentlemen who make these most important discoveries; the greatest praise is due to all of them. They have conferred great obligations upon the colony itself, obligations upon us who have been listening to what they have done, and obligations upon the country at large. They are true Englishmen, countrymen of the discoverers of the steam-engine, the locomotive, the electric telegraph, and of the only people who could have performed the feats they have done. Captain Sturt, now here, but with whom I have not the good fortune to be acquainted, is, according to my judgment, the greatest of all Australian discoverers. We are heartily obliged to him for coming up here in his rather delicate state of health: at the same time I am sorry to see him here, for another reason, that he ought to be employed in some high office elsewhere,



as, for example, governor of South Australia or of Victoria, or some equally-important office, for he is assuredly most eminently qualified. I have in my time read several books on Australia, and fear I have forgotten most of them. Not so those of Captain Sturt, which no one that has perused them can ever forget, for they make truth more interesting than fiction.

THE PRESIDENT.—These despatches are full of interesting anecdotes, which, when published, will be read with great interest.

(Here the President read two passages; one regarding the natives, another describing the habits of the emu.)

CAPTAIN STURT.—I quite agree with our worthy President that such is the case. The features of the country are such as to lead to that conclusion. I cannot but think that the desert extended for hundreds of miles beyond where I was at my extreme north. Its features were altogether on too large a scale for me to suppose that they would speedily terminate or change, for notwithstanding that the distance between Mr. Gregory's position and my own is so great as 700 miles, not only is the character of the country the same at both points, but the vegetation is precisely the same also. Probably a better country than either I or Gregory found, exists in the *central portion of the great western half of the continent*, which has never yet been approached. I was in great hopes that Mr. Gregory would have found that Sturt Creek, the creek he traced south, either ran farther to the south, or that it terminated in a basin; but he found that, like all the central rivers of Australia, falling into a level interior, it gradually lost its current, then assumed a chain of ponds, and was ultimately lost by evaporation and absorption. Such is the general fate of all the inland waters of the continent; for which reason there is so much difficulty in making sure of a supply of water in it. When I went into the interior I never allowed my party to go on until I had made a day's journey in advance and found water. Yet with all this caution I was cut off from the possibility of a retreat at the *dépôt*, where I was locked up for six months, and saw the water diminish day by day, from twelve feet to eleven inches, when in ten days more, if rain had not fallen, there would not have been a man of us alive; fortunately, however, a fall of rain came from the north-east, as in Stuart's case, like a dense fog, and in less than twenty-four hours filled the creek to overflowing, which it had taken six months to exhaust. This drizzling rain lasted two days, and it was on the surface-water left by it that I ventured to push on farther into the interior, drinking from shallow puddles that the wind made as thick as mud, and sometimes water that was perfectly loathsome.

PROFESSOR OWEN.—I would ask your permission to say a few words, because I am in hopes that they may help a little towards increasing our knowledge of the peculiar animals, especially the quadrupeds, which inhabit the continent of Australia, respecting which we have just heard such new and interesting information. By me, of course, the narrative of the remarkable geographical discoveries in South Australia has been listened to chiefly in anticipation of novel facts in zoology, and I will not disguise my disappointment at hearing mention made of only one small kangaroo-mouse. But your estimable President has consoled me by intimating that the papers of Mr. Macdougall Stuart contain a few other observations upon natural history subjects. And yet one ought not to be surprised to hear so little about the native quadrupeds from an Australian traveller, who was not expressly bent on zoological collections.

All the marsupial quadrupeds, and it is one of their curious peculiarities, are nocturnal. Even the kangaroo, which is the least so, is scarcely ever seen feeding out on the plains in broad daylight; it prefers the early morning dawn or the short twilight, and, above all, the bright moonlight nights. With regard to most of the other Australian forms of marsupial animals, they are

more strictly nocturnal. So that, if a traveller were not aware of that peculiarity, he might fancy himself traversing a country destitute of the mammalian grade of animal life. If, however, after a weary day's journey he could be awakened, and were to look out upon the moonlit glade or scrub, or if he were to set traps by night, he would probably be surprised to find how great a number of interesting forms of mammalian animals were to be met with in places where there was not the slightest appearance of them in the day-time.

It is most interesting, with regard to the very peculiar characteristics of the prevalent mammalian forms in this enormous continent, to look back into times past—of untold antiquity—and to find, from the evidences that have been lately coming over rapidly, of the fossil remains of mammalian animals that are obtained from formations in Australia of the same general character and geological age as those brick-fields and other lacustrine deposits in our own country, where our old elephants, rhinoceroses, hippopotami, and other large quadrupeds are found; to find, I say, that in Australia there are evidences of creatures of equal bulk, but of marsupial nature, which have also passed away and become extinct. We can now show in the British Museum, for example, the fossil skull of a kangaroo—that is to say, of an animal with the peculiar cranial structure and dentition of the genus *Macropus*—tooth for tooth, in kind, in shape, in number and position, like no other creature but a kangaroo; and yet this fossil cranium is more than three feet in length. The governor of New South Wales, Sir William Denison, has transmitted, and through your excellent President has distributed to those who can best appreciate the evidences afforded by a happy application of the photographic art, excellent photographs of other singular fossils that have lately been discovered in Darling Downs in Australia. Those evidences have brought to our knowledge the skull of a quadruped not so large as the one I have referred to, but the most extraordinary in its proportions and characters that the palæontologist has ever before seen, and which, in reference to its affinities, finds its nearest analogue in that rare marsupial animal called the koala. The *Nototherium* was as gigantic, in reference to that recent marsupial, as the *Diprotodon* with a head three feet long is to the existing kangaroo. These great herbivorous marsupials were preyed upon by an equally marsupial carnivore of the size of a lion. Thus we learn that *marsupialia* enjoyed existence in Australia in times long past, and under forms as gigantic and remarkable as those Placentalia discovered in the European and Asiatic continents, which have revealed the former existence there of hairy elephants and rhinoceroses, of huge deer and bison, of bears and hyænas, illustrating the same geographical restriction of certain mammalian forms in the pre-historic and present times.

In regard to the relation of marsupial quadrupeds to Australia, the adaptation of their peculiar characteristic to that country has been impressed upon me to-night more than on any other occasion, while listening to the graphic and thrilling account of the difficulties which the highest form of mammalian life finds in maintaining his existence in that continent, in consequence of the great scarcity of water. I have always connected with the long droughts in Australia, with the extensive tracts where there are no waters, with the difficulty of obtaining that necessary element of life,—the singular peculiarity of organisation which prevails among the mammalian quadrupeds of Australia. The carnivorous species and the insectivorous ones, the frugivorous; the root-eating and the leaf-eating quadrupeds—no matter what their diet, whatever be their powers of locomotion and spheres of action; whether they burrow like the wombat, climb like the phalanger, jump like the kangaroo, trot like the bandicoot, or fly like the petaurist,—no matter what their mode of motion or kind of food,—all these creatures are marsupial. I may be asked, What do you mean by marsupial? I mean that they are creatures having the power of

carrying their delicate prematurely-born young about with them wherever they go. They have this condition, viz., a soft, warm, well-lined portable nursery-pocket or "perambulator." Take the case of one of our wild quadrupeds, suppose a fox or wild cat; they make their nest, they have their litter. Suppose it should happen that they must travel one or two hundred miles to get a drink of water, impelled by the peculiar thirsty condition of a nursing-mother, but obliged to leave the little family at home,—where would that family be when the parent returned from its hundred miles journey, the poor, little, blind, deserted litter? Why, starved to death. In order that quadrupeds should be fitted to exist in a great continent like Australia, where the meteoric conditions are such as to produce the dilemma I have instanced, those quadrupeds must possess an organisation suited to such peculiar climatal conditions. And so it is; that form of mammalian quadruped in this great continent, native to it, and born so as to make these migrations to obtain that necessity of life, has the superadded pouch and genetic peculiarities enabling them to carry their young ones wherever they go. And since we find that marsupial animals have lived in Australia from a very remote period, so we may infer that its peculiar climate has prevailed during as vast a lapse of time. Permit me to conclude by repeating that the peculiar mammalian forms of Australia hide themselves by day, and must be sought for by night, or early dawn, or twilight. The scientific traveller, bearing in mind that the marsupialia are nocturnal and keep out of view, would do well to let no night pass without setting and baiting traps for them. He would probably thus be able greatly to enrich our catalogues of these most curious and interesting quadrupeds.

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The Second Paper read was:—

2. *Notes on the Manacusi, or River King George.* By CHARLES H. HILLIARD, Mate of the Cutter *Herald*. 1857.

Communicated by J. LYONS M'LEOD, Esq., F.R.G.S., late H. M. Consul at Mozambique.

THE *Herald* sailed on a trading expedition up the Manacusi River. When she had attained a distance of from 100 to 140 miles from its mouth, the Portuguese authorities forbade farther progress, and the vessel was ordered to return. Mr. Hilliard gives an account of what was observed during the three weeks the *Herald* was in the river. The bar at its mouth is described as the scene of a fearful surf, dangerous to a boat, but offering no difficulty to the vessel:—

"Opposite to the passage by which we entered are several large, low islands, densely covered with the finest red mangrove poles I ever saw, on which the archil grows in great abundance, and on the bush by the banks of the river. For some miles up the river the banks are more or less covered with bush, mangrove jungles, and trees, generally a species of banian, and others, indicating a wet soil, the most of which I have seen growing in swamps in Natal. On the first night, by where we anchored, the large bush-buck (*Inconcha*) appeared to be plentiful from the number we heard barking like small dogs.